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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,541	10/17/2003	Takamasa Harada	2001JP309	1153
26289	7590	02/07/2005	EXAMINER	
CLARIANT CORPORATION ATTENTION; INDUSTRIAL PROPERTY DEPT. 70 MEISTER AVENUE SOMERVILLE, NJ 08876			JUBA JR, JOHN	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,541

Applicant(s)

HARADA, TAKAMASA

Examiner

John Juba, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/31/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

The benefit claim filed on February 20, 2004 was not entered because the required reference was not timely filed within the time period set forth in 37 CFR 1.78(a)(2) or (a)(5). If the application is an application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a nonprovisional application which entered the national stage from an international application filed on or after November 29, 2000, *after compliance with 35 U.S.C. 371*, the reference to the prior application must be made during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii).

If applicant desires priority under 35 U.S.C. §120 based upon a previously filed application, applicant must file a petition for an unintentionally delayed benefit claim under 37 CFR 1.78(a)(3). The petition must be accompanied by: (1) the reference required by 35 U.S.C. 120 and 37 CFR 1.78(a)(2) to the prior application (unless previously submitted); (2) a surcharge under 37 CFR 1.17(t); and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional

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information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Applicant's request to treat the original filing as the filing of a National Stage application under 35 U.S.C. §371 was not received within the time period proscribed, and the requirements under §371 were not satisfied within the time period provided under 37 CFR 1.495. Accordingly, this application must be treated as a national filing under 35 U.S.C. 111(a).

Applicant's claim for foreign priority under 35 U.S.C. §119 (a-d) based upon a Japanese application cannot be accorded, since the Japanese application was filed more than one year prior to Applicant's U.S. filing date under §111(a). Thus, Applicant's effective filing date is the actual filing date under §111(a) in the United States on October 17, 2003.

At such time as Applicant's petition for unintentionally delayed benefit claim under 37 CFR 1.78(a)(3) may be granted, Applicant will be accorded the benefit of foreign priority under 35 U.S.C. §119 (a-d).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the pillar structures must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 8, 12, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of claims 8, 12, and 16 recites that the film makes use of a selective reflection characteristic of cholesteric liquid crystal. However, the reflection characteristic of cholesteric liquid crystal varies dramatically with composition. It has been held that a claim may be rendered indefinite by reference to an object that is variable. *Ex parte Brummer*, 12 USPQ2d 1653 (Bd. App. & Inter. 1989) On the other hand, a recitation that the film *comprises* a cholesteric liquid crystal would be simply broad. However, the claims are indefinite as to whether the film actually comprises such a material, or simply mimics the reflection characteristics thereof.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 –16 are rejected under 35 U.S.C. 103(a) as being unpatentable over NASHUA CORP (WO 98/39755 A2), in view of SAR, PLC (EP 0 294 122 A1). Omar, et al disclose a light-polarizing sheet in contact with or bonded to a light scattering film ("diffusing" sheet or layer; Pg. 4, last para.) wherein the polarizer is a reflective polarizer which is a cholesteric filter combined with a quarter wave plate (Pg. 7, 1st para.; Pg. 14, 1st & 2nd paras.). Thus NASHUA CORP disclose a reflective polarizer by which light is selectively P/S converted (see discussion, Pg. 15, 2nd para.). Thus, NASHUA CORP disclose the invention substantially as claimed, including the scattering film as having gradual index variations (e.g., Pg. 10, 1st whole para.) in the form of gradient index lenses (Pg. 20, last para). Notwithstanding the artisan's reasonable inference that the gradient index lenses are columnar, NASHUA CORP do not expressly disclose the scattering film as comprising at least two phases of different refractive indices, wherein the phase having the greater refractive index has "pillar structures" extending in the thickness direction of the film wherein the refractive, or the transmittance of the film in the normal direction being at least 4%.

In the same field of endeavor, SAR, PLC disclose a light scatter film comprising oriented pillar structure ("tubular" gradient index microlenses; Pg. 3, line 9) wherein a

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"negligible" amount of light passes outside the viewing area (Pg. 3, lines 50 – 51). The pillar structures correspond to photopolymerized regions within the volume of the film, and having a refractive index that increases toward the center of the regions will an increased degree of photopolymerization. SAR, PLC refer to light trapping by total internal reflection within these pillar structures. Thus, it will be appreciated that the pillar structures correspond to the phase having the higher refractive index. The second phase corresponds to the low index region of unpolymerized film.

It would have been obvious to one of ordinary skill to provide the light scattering film of NASHUA CORP with pillar structures of the type recited, since NASHUA CORP expressly suggest formation of the film by the method of SAR, PLC (Pg. 10, 1st para.,Pg. 20, last para.). It is believed that in accordance with these two teachings, one of ordinary skill would have found it obvious to provide the film with a transmittance in the normal direction of at least 4%, since both references suggest providing a bright display.

With regard to claims 3 and 4, SAR, PLC suggest that improvement can be achieved by providing the pillar structures so that alternate pillars are parallel to each other and inclined with respect to the film's surface normal, so as to provide a three-dimensional (stereoscopic) viewing effect. However, it is believed that they also suggest that the pillars may be provided as parallel with each other and to the surface normal (Pg. 5, lines 6-10). In any event, it is clear by inspection of Figure 12 that at least some of the pillars will be parallel with each other and oriented in the surface normal direction.

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With regard to claims 5, 9, and 13, SAR, PLC teach an index variation (Δn) of about 0.02.

With regard to claims 7, 8, 11, 12, 15, and 16, the cholesteric reflective polarizing layer of NASHUA CORP is laminated with other films (Pg. 15, 2nd para.), and thus must be regarded as a "laminated type" of polarizer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sacomanno, et al (U.S. Patent Appl. Pub. no. 2004/0105159A1) disclose a liquid crystal display comprising a polarizer in combination with a light diffusing film having gradual refractive index variations through its volume (para. [0082]).

Jansson, et al (U.S. Patent number 5,365,354) disclose diffusers comprising gradual index variation through the volume of the polymer and teach that these variations reduce reflection losses within the material that would otherwise be induced by abrupt index discontinuities.

NASHUA CORP (WO 96/20419 A1) are cited by NASHUA CORP (WO 98/39755 A2) as being a suitable light scattering film for use with their reflective polarizer, the former reference disclosing a scattering film comprising refractive index variations and a method of stretching the gradient index lens films of SAR, PLC (EP 0 294 122 A1) to vary the scattering effects.

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DURAND LIMITED (WO 94/29768 A1) are cited by NASHUA CORP (WO 98/39755 A2) as being a suitable light scattering film for use with their reflective polarizer, the former reference disclosing a scattering film comprising refractive index variations and a method of modifying the gradient index lens films of SAR, PLC (EP 0 294 122 A1) to vary the scattering effects.


MICROSHARP CORP LTD (WO 00/41009 A1) disclose a scattering film comprising refractive index variations in the form of gradient index microlenses made by the methods of SAR, PLC (EP 0 294 122 A1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Juba whose telephone number is (571) 272-2314. The examiner can normally be reached on Mon.-Fri. 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Drew Dunn whose number is (571) 272-2312 and who can be reached on Mon.- Thu., 9 - 5.

The centralized fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for *all* communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.


JOHN JUBA, JR.
PRIMARY EXAMINER
Art Unit 2872

February 1, 2005